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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/512,003	07/05/2005	Ramon John Bambach	7081P002	6420

8791            7590            06/01/2007  
BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
12400 WILSHIRE BOULEVARD  
SEVENTH FLOOR  
LOS ANGELES, CA 90025-1030

EXAMINER
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LEE, BENJAMIN P

ART UNIT	PAPER NUMBER
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3641

MAIL DATE	DELIVERY MODE
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06/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/512,003	BAMBACH, RAMON JOHN
	<b>Examiner</b>	<b>Art Unit</b>
	Benjamin P. Lee	3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 October 2006.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 22-64 is/are pending in the application.
- 4a) Of the above claim(s) 1-21 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 22-24, 27-30, 32, 41-44 and 51-54 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date: _____	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Election/Restrictions***

1. In the response to Election/Restriction requirement dated 10/12/2006, Applicant elected Species C with traverse. Applicant submits that claims 22-64 read on the elected species. Examiner maintains that the indicated species are distinct from each other as alternate embodiments of the present invention. Claims 1-21 are hereby withdrawn from consideration.

### ***Specification***

2. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

### ***Claim Objections***

3. Claims 25, 26, 31, 33-40, 45-50 and 55-64 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 25, 26, 31, 33-40, 45-50 and 55-64 have not been further treated on the merits.

4. Claims 22-24, 27-30, 32, 41-44 and 51-54 have been examined.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 22-24, 27-30, 32, 41-44 and 51-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant claims a "coupling" and "retaining means". Since by definition, the "coupling" is regarded as the retaining means, it is not clear how this subject matter is distinguishable.

6. In regards to claims 22, 27, 29, 41, 44, 51 and 53, Applicant teaches in specification that the retaining means is either a frangible coupling or cooperating screw threads. Based on this disclose compared to the claimed subject matter, it is unclear if Applicant intends that the retaining means incorporate cooperating screw threads, a frangible coupling or both. Examiner assumes that Applicant intends that the retaining means is a frangible coupling that utilizes screw threads to connect adjacent projectiles.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 22, 23, 27, 41, 43 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Dwyer et al. (U.S. Patent 6138395).

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8. In regards to claims 22, 27, 41, 43 and 51, O'Dwyer et al disclose a projectile sealing arrangement including at least two projectiles coupled together by a frangible coupling (item 54 of O'Dwyer et al fig. 5 following) to form a chain, wherein: each projectile has a head portion, a tail portion and a propellant charge (see O'Dwyer et al fig. 5 following), the tail portion of the leading projectile and the head portion of the trailing projectile form a seal around the propellant charge of the leading projectile, and the coupling includes retaining means disposed between the tail portion of a leading projectile and the head portion of a trailing projectile (see O'Dwyer et al fig. 5 following). Note that the tail of the leading projectile and the head of the trailing projectile encompass the propellant charge of the leading projectile and form what constitutes a seal between them.

9. In regards to claim 23, O'Dwyer et al disclose the seal includes contact between complementary surfaces on the leading and trailing projectiles (see O'Dwyer et al fig. 5 following). Note that item 55 (column) contacts the head of the trailing projectile.

10. Claims 22, 23, 27, 28, 30, 41-43, 52, 51 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Tauschek et al. (U.S. Patent 2099993).

11. In regards to claims 22, 27, 41, 43 and 51, Tauschek et al disclose a projectile sealing arrangement including at least two projectiles coupled together by a frangible

coupling (see Tauschek et al fig. 9 following: Note that the "ball" and "socket" disclosed by Tauschek et al in figure 9 constitutes a "frangible coupling" since they separate or "break") to form a chain, wherein: each projectile has a head portion, a tail portion and a propellant charge (see Tauschek et al fig. 9 following), the tail portion of the leading projectile and the head portion of the trailing projectile form a seal around the propellant charge of the leading projectile, and the coupling includes retaining means disposed between the tail portion of a leading projectile and the head portion of a trailing projectile (see Tauschek et al fig. 9 following). Note that the tail of the leading projectile and the head of the trailing projectile encompass the propellant charge of the leading projectile and form what constitutes a seal between them.

12. In regards to claim 23, Tauschek et al disclose the seal includes contact between complementary surfaces on the leading and trailing projectiles (see Tauschek et al fig. 9 following).

13. In regards to claims 28, 30, 42, 52 and 54, Tauschek et al disclose the retaining means includes complementary spigot means and socket means engaged together. The spigot and socket means are provided on the trailing and leading projectiles respectively (see Tauschek et al fig. 9 following).

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Dwyer et al. (U.S. Patent 6138395) in view of Schirneker et al. (U.S. Patent 3412681).

15. In regards to claim 24, O'Dwyer et al fail to disclose the seal includes an adhesive connection between the leading and trailing projectiles. However, Schirneker et al disclose using an adhesive to connect multiple projectiles together (col. 6, lines 45-50). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to utilize an adhesive between the tail and head of consecutive projectiles to connect the projectiles as disclosed by Schirneker et al, so that the projectile stack is easier to handle when loading.

16. Claims 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tauschek et al. (U.S. Patent 2099993) in view of Schirneker et al. (U.S. Patent 3412681).

17. In regards to claims 24 and 32, Tauschek et al fail to disclose the seal includes an adhesive connection between the leading and trailing projectiles. However, Schirneker et al disclose using an adhesive to connect multiple projectiles together (col. 6, lines 45-50). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to utilize an adhesive between the tail and head of consecutive projectiles to connect the projectiles as disclosed by Schirneker et al, so that the projectile stack is easier to handle when loading.

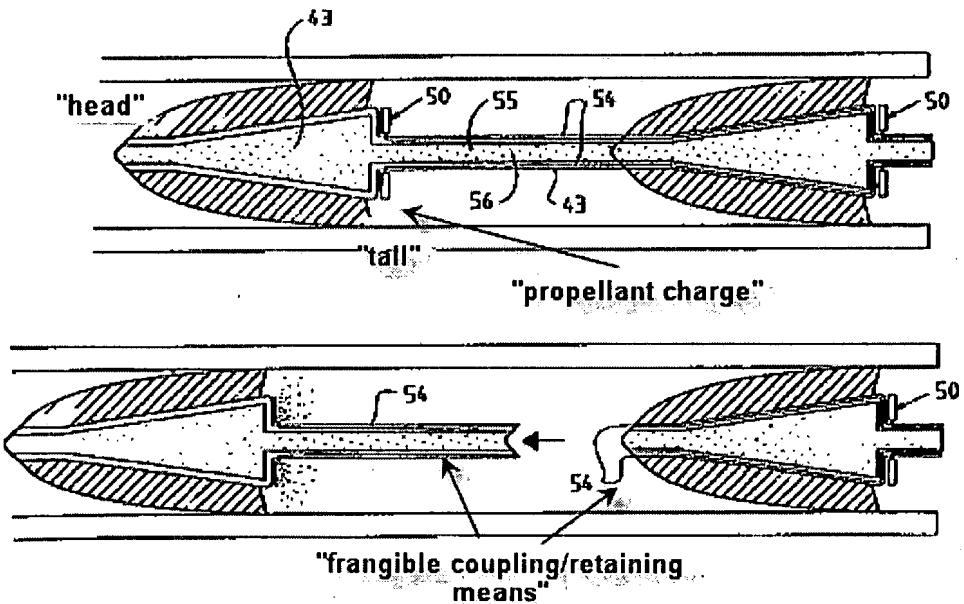
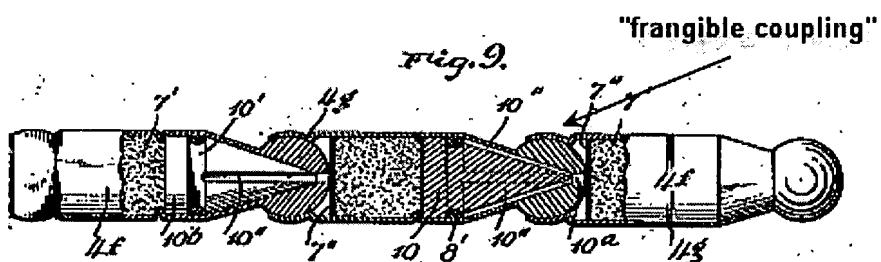


FIG. 5

O'Dwyer et al



Tauschek et al

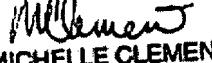
### ***Summary/Conclusion***

18. Claims 22-24, 27-30, 32, 41-44 and 51-54 are rejected.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin P. Lee whose telephone number is 571-272-8968. The examiner can normally be reached between the hours of 8:30am and 5:00pm on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
MICHELLE CLEMENT  
PRIMARY EXAMINER